

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004  
 DateRun: 01/22/2004  
 Experimenters: Jason Marshall  
 ClientType: Tool Manufacturer  
 ProjectNumber: Project #1  
 Substrates: Steel  
 PartType: Part  
 Contaminants: Oil  
 Cleaning Methods: Ultrasonics  
 Analytical Methods: Visual

Purpose: To evaluate ultrasonic energy for cleaning the supplied parts.

Experimental Procedure: One product was used at 10%, diluted with DI water and heated to 120 F. The solution was poured into a Branson 200 ultrasonic cleaning system and de-gassed for five minutes. One part was immersed into the solution and cleaned for 10 minutes with 40 kHz ultrasonic energy. The part was dried using air blow off at room temperature for 30 seconds.

Results: Ultrasonics was very effective in cleaning the punch and arbor parts.

Summary:

|                      |   |               |                    |                                     |                      |
|----------------------|---|---------------|--------------------|-------------------------------------|----------------------|
| <b>Substrates:</b>   | Steel   |               |                    |                                     |                      |
| <b>Contaminants:</b> | Oil   |               |                    |                                     |                      |
| <b>Company Name:</b> | <b>Product Name:</b>                          | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b>                   | <b>Observations:</b> |
| Gemtek Products      | SC Aircraft & Metal Cleaner Super Concentrate | 10            |                    | <input checked="" type="checkbox"/> |                      |

Conclusion: Ultrasonic energy would be an effective method for removing the quench oil and gray film on the punch part and the quench oil from the arbor part.